



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ductions of art that revive the bright period of Grecian glory ; and who, even now, that her palaces are made desolate, and her vineyards trodden down under the foot of the stranger, retains within her bosom all the fire of ancient genius. It would show a strange insensibility, indeed, did we not sympathize in the fortunes of a nation that has manifested, in such a variety of ways, the highest intellectual power ; of which we may exclaim, in the language which a modern poet has applied to one of the most beautiful of her cities,

O Decus, O Lux
Ausoniæ, per quam libera turba sumus,
Per quam Barbaries nobis non imperat, et Sol
Exoriens nostro clarius orbe nitet!

ART. III.—*Origin and Progress of the Useful Arts.*

The Frugal Housewife. By the Author of *Hobomok.*
Third Edition. Boston. 1830.

It would be presumptuous in us, to point out the merits or defects of a work so entirely beyond our jurisdiction as this ; at the same time, we would not have this writer suspect that we have introduced her name, merely to secure a title to our article. We have done it rather, to express our respect for an accomplished lady, to whom we have been indebted for entertainment in former times ; and though her present writings do not come within the reach of our criticism, we know how to estimate the moral self-denial, which appears in the devotion of her talents to the service of the young. We can recommend her *Juvenile Miscellany* to parents, as an excellent work for their children ; the defects in it are very trifling, and ought never to be mentioned, without giving the praise due to all, who, feeling themselves capable of higher efforts, are content to sacrifice such fame, for the better and more enduring reward of gratitude and affection.

We propose to give a slight account of several of the arts of life, which are alluded to in this work ;—to trace them downwards, showing from what beginning they sprang, and what improvements they underwent in the course of successive ages. There is no regular history of such arts, excepting Beckmann's, which is nothing more than a collection of notes on various subjects without system ; valuable and thorough,

but very limited in its range of subjects. Such an imperfect account as can be given, is only to be gained from incidental remarks gleaned in the works of various historians, who had no intention of giving light to future ages upon any such matters. Such an account will afford evidence, distressing to a certain class of moralists, because it tends to show that the wants of the human race are growing. Growing in extent and number they certainly are, and it seems to us, that men cannot do better than to let them grow; for these wants, in whatever form they come, are severely faithful friends; they drive men to activity both of body and mind. It was well said, that the advice to cut off our wants, when we have nothing to supply them, is like advising men to cut off their feet, when they happen to have no shoes. No tribes of the human race, with which we are acquainted, will work with body or mind, simply for the sport of the thing; and since exercise is so important to the health of the soul, we think that the moralist should bless the necessity that drives men to exertion. It is evident, that most of the luxuries, which at their first introduction, were looked upon with an evil eye, soon became nothing more than comforts; stockings, for example, were doubtless thought very effeminate, when first invented; but as invention put them within the reach of all, they became nothing more than comforts, which no man was disposed to rail against, because they could not well be dispensed with; and which, instead of tending to enervate the frame, do actually increase its power of physical endurance and exertion. It is sufficiently clear, from various experiments, that although the wild human animal *does* endure more hardships than the domesticated, the latter *can* endure far more from exposure to labor or climate, than the other, because strength is increased by a proper measure of food and keeping; even luxuries, when they are not excesses, do not produce the effect apprehended; witness the young English officers, who, though accustomed to no other parade than that of Bond-street, sustained, even better than veterans, the march and bivouac of the Peninsular campaigns.

This matter is not generally understood, and what the error is, may be explained by an illustration. After the death of Major Laing, the enterprising traveller in Africa, the colored potentate of the kingdom in which he died restored his effects to the British Admiral, on the nearest station, and among the

rest, an old hat, which had lost its crown as completely as the late king of France. When another, we believe Mr. Tyrwhit, died in a similar adventure, the Africans took an inventory of his property, with a view to restore it. They were sorely puzzled in making out this paper, and in utter despair, described a couple of tooth-brushes as 'two scrapers made of pig's hair,' and set down his spectacles as 'two looking-glasses for the nose.' Now one of the sages, who lament that our wants are increasing, would say, How fortunate these Africans, who know not the want of hats, spectacles, or tooth-brushes! But they make a pretty obvious mistake. The Africans know the *want* of these things as well as we, but they know not how to *supply* it, and we do; so that the balance certainly leans in favor of civilized life.

The common prejudice is, that we should endeavor to dispense with the thing wanted. When the thing wanted is not by any means to be had, as in the case of the child crying for the moon, it is clearly the best and almost the only way, to try to do without it; but when it is a want that can be supplied without creating other wants, by drawing off from other resources, it is best to make exertions to supply it; for example, the backwoodsman, who weeps as he endeavors to read by the pine torch,—candlewood, as it was called by our fathers,—will do well to work a little longer and harder, for the means of buying candles, if they are within his reach. Yet it is mournful to see what slender thanks are given to any one who endeavors to increase the comfort of the human race. Let any one try the experiment, and he will fare like the reformer, who endeavors to eject the pig from an Irish cabin, and finds reason to regret that he ever meddled with a character so important. Jonas Hanway first appeared with an umbrella in the streets of London, and though a popular and respectable character, he was looked upon with a feeling very similar to that with which the ancient prophet of that name was regarded; he was beset in such a manner, that the instrument of defence from the rain saved him from a more pelting shower of earthly hail, and he went his way rejoicing to escape without a broken head.

What effect our wants have in quickening the mind to action, may be seen in the advance of the arts of life compared with those of taste. When the latter have reached a certain height in any department, they stand still; any great effort retains its

pre-eminence for ages; the Parthenon in architecture, the Venus in statuary, and the Iliad in poetry, are exertions of power, which men, instead of attempting to rival, are content to gaze upon with wonder and despair. We do not say the same of painting, because portrait-painting, which restores the absent and the dead, is almost a necessary of life; and it is precisely that which keeps on with the most unwearied improvement. Meantime, the arts of life have no rest in their advancement; every year throws the skill and success of its predecessors into shade; some new and unimaginable discovery is perpetually eclipsing all that have gone before it; and by a pretty exact inverse proportion, Amos Cottle is to Homer, as the arts of life in Homer's day to those of our own.

But we have not space for these general remarks, and will, therefore, proceed to give some slight account of those arts by which our imperative wants are supplied. We place food first in order, because it is the most essential; many have contrived to live without houses, and even without clothing, without suffering much either from delicacy or climate, but we never have heard of any people who have subsisted without food. It is then, decidedly, the most momentous of the arts of life, which professes to supply this craving; and in justice to our race, we must say, that it is generally treated in practice with all the attention and solemnity which its abstract importance deserves.

One of the earliest of arts in this department, was that of making bread, as appears from the Scripture account of Abraham. It does not appear that flesh was eaten before the flood; though the division of animals into clean and unclean subsisted before that time; and the teeth and stomach must have been carnivorous from the beginning, unless, in accordance with Darwin's theory, we allow that long and faithful practice has brought them to their present form. Meat in warm climates is less desirable, than any other kind of food; the hecatombs annually sacrificed in our country, would have sustained an Oriental nation for years. Corn was at first eaten without any preparation, while it was still soft in the ear; and without any other preparation than grinding it in a mortar, when it had become hard. In the mortar, it was rather ground than pounded, so that the change was not great, from the mortar to the mill. The rude mill which was in use in the days of the patriarchs, is not yet out of date in the East.

It was composed of two stones of a circular form, of which the upper had its lower surface concave, to fit the convex upper surface of the nether mill-stone. In the upper stone was an upright piece of wood, with a cross stick at the top of it. Two women kneeled down, facing each other, and with their left hands kept the upper stone in rapid whirling motion, while with their right, they poured in corn through a hole in the upper stone. The flour fell out at the sides, and was passed through sieves of rushes. That which was not ground sufficiently fine, was put into the mill again.

This kind of mill was so easily constructed, that it was often used, even by those who were acquainted with better. A pair of old Roman mill-stones, of this description, were dug up in Yorkshire, at the beginning of the last century ; their diameter was twenty inches. It must not be inferred from this, that they were unacquainted with water-mills, for these are described by Palladius and Vitruvius ; and we know also, that cattle-mills were very common at Rome. The practice of employing slaves for this purpose, was more agreeable to the feelings of the masters of the world ; but it gradually gave way to the superior advantages of the larger constructions. Many orders, with respect to mill-slaves, are found among the records of Rome, and they were still in use in the time of Theodosius. No distinct account of public water-mills is found, till the time of Arcadius and Honorius. Then, they were built upon the aqueducts, which conveyed water into the city. Floating-mills were invented by Belisarius, when Vitiges besieged him in Rome, in 536. By cutting off the supply of water in the aqueducts, he deprived the city not only of that element, but bread. The Roman General, accustomed to military expedients, proposed to the inhabitants to anchor vessels in the stream, and suspend wheels between them in such a manner that they might be turned by the tide. Mills were constructed in this way, and though heavy and slow in their operation, they answered the purpose till the siege was raised. One would have thought that the expedient of applying the force of the wind to this purpose, would have suggested itself in ancient times, since the use of sails in navigation was well known, but we find no account of this whatever. Some have thought that wind-mills were introduced into Europe by the Crusaders on their return from the East ; but we fear that those strange expeditions cannot have the praise of

rendering this service to mankind, for it is tolerably clear, that they were known in Europe before the Crusades began. They were the occasion of a dispute in the end of the fourteenth century, which, illustrates curiously enough the manners of the times. The Augustin monks at Windsheim wished to construct a wind-mill not far from Zwolt; but their measures for that purpose were arrested by the Lord of Woedst, who declared that the district was in every respect under his control, and positively forbade their proceeding. The monks in their distress bethought themselves of the spiritual pretensions of the Bishop of Utrecht, and laid their case before him. Extremely incensed by this laical encroachment, he held forth a statement, in which he maintained that the right to all the wind in the diocese was vested in his own person, and directed the monks to put up their mill in whatever place they thought good.

The means of preparing bread, by an easy and not unnatural association, remind us of butter. We find this article mentioned in Scripture, but we presume that no one thinks it bore much resemblance to what now passes by the name. It is thought by the best sacred critics to have been milk cream, or some thick cream. It was evidently used for the purpose of bathing the feet, and is spoken of as a luxurious indulgence. The oldest account of the preparation of butter, whatever the substance was, is found in Herodotus; but he does not describe, and, probably, did not know it minutely; all he tells us is, that it was separated by shaking the milk till the richest part of it subsided. Strabo mentions that it was used by the Ethiopians; but he does not say what it was, nor for what purpose it was used. We learn from Plutarch, that a Spartan lady paid a visit to Berenice, the wife of Dijotarus, and one being perfumed with ointment and the other with butter, they openly expressed their disgust to each other. This prepares us for the statement of Hippocrates, that butter was efficient as a medicine, probably, of the emetic kind. But we need not be particular in this criticism, for it is sufficiently clear, that neither Greeks nor Romans used it in cookery; they valued it as an ointment and medicine, not as food.

As we have said, flesh does not seem to have been so essential an article of food in the earliest times known to history, as in ours. It was not often served up, unless there was a stranger present. For this reason, the various prohibitions of Moses were less severe to the Jews of ancient than of modern

times. He forbade their eating a kid boiled in its mother's milk, because such was the practice of those idolaters, from whose example he wished to preserve them. It would also appear that some kinds of flesh were thought to produce, or favor leprosy disorders.

When an animal was to be slain, the business of preparing it fell to the lot of the master of the house, even if he were a prince or king ; to this beginning, may possibly be traced the prejudice, which regards butchery on a magnificent scale as the chief glory of great men, and it is much to be regretted, that their operations had not always been confined to the domestic limits, within which they were useful and happy. The King Alcinous would, probably, have hesitated as little to kill and cook an animal, as the Princess Nausicaa to wash the clothes of the royal household. As for the kinds of meat that were eaten, the bill of fare was as extensive as in modern times ; in the East somewhat more so, locusts being a common article of food ; they are still used, though less valued as a luxury. A traveller in the last century remarked to certain Arabs, that he wondered at their eating insects so disgusting ; to which they replied, with some show of reason, that it savored of affectation in a person who could swallow an oyster, to be startled by any thing in the way of eating.

Among the Greeks various kinds of bread were eaten, and the profession of the baker was held in high esteem, insomuch that one of the craft was thought worthy of the notice of Plato. A specimen of these choice preparations will be enough for our readers,—rather more than they would wish to eat. One favorite kind was flavored with poppy-seed ; another was made of flour and honey together with oil ; another was made of flour and water boiled, with a seasoning of pepper, cinnamon, saffron and cheese.

The fishes were as closely connected with a taste for loaves as in the patriotism of modern politicians. This seems strange to us in New England, whose forefathers sentenced themselves to a dinner of fish once a week by way of a necessary bounty to encourage the trade. The passion of the Athenians for fish was carried to an extreme, which might seem excessive to those, who do not know the gratitude of republics to all who render them similar services. Two young Athenians were knighted on account of the excellent salt-fish sold by their father. Fish was the food of the Greeks on their

military and naval expeditions; and epicures made a point of boiling them in salt water, a point on which we believe their sentence has not been affirmed by their modern successors. We are sorry to say that the fish-mongers were not exempt from the ordinary fate of human nature. Like all other bodies of men in republics, when they were weak, nothing could exceed their humility; but when they felt that they had the comfort of the citizens completely in their power, being able at any time to abridge the perpetual Lent in which the republic delighted, the men of nets became a very aristocratic class. A Greek writer expressed his indignation at their assumption, with eloquence which bordered on the profane, saying, that when he saw Generals looking big, he did not so much wonder, though he thought they might have had more sense; but when he saw those execrable fish-mongers strutting through the streets with their eyebrows as high as the top of their heads, not deigning to look at any common mortal, he felt as if he could die sooner than see so detestable a sight.

The meats used by the Greeks did not materially differ from those approved by the Romans. Some of the luxuries of the latter are less esteemed at the present day, such as puppies, and the large white worm found in rotten wood, which is now extensively used, we believe, only in New Holland. The snail was another of their dishes, which has now lost favor, except in Germany, notwithstanding an attempt to revive it, made by two men of science in Edinburgh half a century ago. The supper of Pliny consisted of a barley-cake, lettuce, two eggs, three snails, with a due proportion of wine. The Romans were in the habit of stitching up the eyes of poultry and cramming them with food in the dark, a practice which has prevailed in later times, but is now known to render the flesh unwholesome. When they killed swine, they often did it by passing a red-hot spit through the body; at first sight this would seem severe; but the pig could not reasonably complain, seeing that a treatment little, if any better, was extended by the Romans to conquered nations, who were content to call it glorious. Such ungentle practices, however, were not peculiar to ancient times, and we must not consider them as evidences of unkind feeling, since we find Isaac Walton directing the angler to use the living bait like a friend, and to put it upon his hook with the tenderest care. A household receipt, published in 1660, throws light upon this subject. It is as

follows : ‘Take a goose, or duck, or some such lively creature, pull off all her feathers, only her head and neck must be spared ; make a fire round about her so that the smoke may not choke nor the fire burn her too soon ; when she roasteth and consumeth inwardly, wet her head with a wet sponge, and when you see her giddy with running and begin to stumble, she is roasted enough. Then take her up,—set her before guests,—and she will cry as you cut any part off from her, and will be almost eaten up before she be dead ; it is mighty pleasant to behold.’ An agreeable entertainment truly, in every sense of the word !

Many of the ancient dishes, which are now disused, have kept their reputation far down into modern times. In the time of William the Conqueror, the peacock was an important dish both for ornament and good cheer. The feathers were removed till the bird was cooked, when they were carefully restored,—the beak and comb were gilded,—the tail spread, and in this state it was brought to be admired and eaten at the table. Various fantastic contrivances of this kind were resorted to in order to give variety and spice to entertainments, which were the most important concerns of the great in the intervals of hunting and war. Every child knows the fact, on authority which no one of their number ever questioned, that pies containing living birds were served up at the tables of the great ; but though the words of the song expressly state that the birds were baked in a pie, we are happy to say that there is reason for believing that the pie was baked first and the birds enclosed afterwards : in fact, on any other supposition, their song would have ended before the feast began.

The common impression is, that this art of life was highly improved in England, from the earliest times, but the taste was probably not equal to the passion. The roast beef of old England, so well known to song, existed only in poetical visions. The Percy family in England have in their possession a book, containing the household system of an Earl of Northumberland, in the reign of Henry VII., in which every thing is set down with a precision, which would amaze a veteran housekeeper of our day. This has always been one of the wealthiest and most liberal establishments in England. The regular household consisted of one hundred and sixty-six persons, including the Earl’s family, knights and gentlemen, and domestics with their families ; in addition to these, preparation

was made for fifty guests every day. From this book, it appears, that from Midsummer to Michaelmas,—September 29th,—they had fresh meat,—so called,—but lived on salted provisions all the rest of the year. And this fare was so much the worse, because they had no vegetables worth naming. Potatoes were not introduced till a century after ; and in the succeeding reign, when the Queen wanted a salad, she was obliged to send a man for it to Flanders. The book directs, that ' My Lord has on his table for breakfast at seven in the morning a quart of beer and wine, two pieces of salt fish, six red herrings, four white ones, and on flesh days, half a chine of beef or mutton boiled.' The defects of this meal could not have been supplied by bread, because England was not at that time an agricultural country. Dr. Johnson tells us, that whoever does not mind that part of the frame most interested in these disclosures, will not mind any thing else ; presuming, therefore, that our readers are not wholly indifferent to such concerns, we appeal to them as hungry and hearty men to say, whether it is not quite as well, that the lamented old times should return only in song ; were the wish granted, and the times restored, the strain would subside into a dying fall.

The manner of eating has varied rather more than the material. In the Old Testament times, they seem to have been seated, like Homer's heroes, each at a little table of his own ; but in later times, the Persian custom of reclining was very generally adopted. Three couches were wheeled up to the table on three sides, the lower being left open, that the servants might be able to approach the guests. They lay upon their left sides, with their heads toward the table, and their feet resting near the outer edge. This position would have been constrained and uneasy, had they not been supported ; but the couches were provided with pillows, which could be arranged about the person, as the guest thought proper, against the back or under the side. Thus reclining, they fed themselves with the right hand, using neither fork nor spoon, the meat having been previously carved or torn in pieces. They often dipped bits of bread called sops, in the dish before they ate them. When they lay in this manner, one of course had his back turned to the person next to him, and when he wished to speak with his neighbor, he turned in such a way, as to bring his head upon the other's bosom. So that the expression, ' to be in another's bosom,' only meant being honored with a place next him at the table.

The custom of reclining prevailed also among the Greeks and Romans. It was spread by the latter in the countries they subdued, which accounts for our finding it so general in Judea, when our Saviour came. They only reclined, however, at supper, which answered to our dinner, and was the principal meal of the day. The breakfast was light, consisting of fruit and wine. Near noon, they took what is sometimes improperly called a dinner ; it was a luncheon, eaten without the form of collecting round the table. At supper, the main business of eating for the day was done. The master of the house and the older part of the family reclined ; but the boys and girls, who were not then regarded as so important members of society as at present, sat at the foot of the table. Before the meal began, water and towels were handed to each, for the purpose of washing their hands, which there is reason to believe, was not a needless form. The guests brought each a napkin from home to use during dinner, and if any thing particularly struck their fancy, they used, by permission of the host, to wrap it in this napkin and send it home. Carving was an art regularly taught in schools, established for the purpose ; institutions which might be revived with advantage. The carvers delighted to show their skill, and at large entertainments, they carved to the sound of music, keeping time.

The old English arrangements of the table were peculiar, and in some respects, patriarchal. The whole family, bond and free, sat at one table, the distinctions of rank being marked by the elevation of different parts of the table, or by the *salt*, which was generally large and of curious workmanship, placed upon the board to mark the boundary line. At the Percy table, the Earl's family were elevated above the knights and gentlemen, and they in turn, above the common herd of retainers. The Earl's table was provided with linen, that of the knights also had a table-cloth, which a distinguished historian conjectures, was washed once a month, though of this there is no certainty. It may enlighten us as to the scrupulous neatness of that day, to know, that the cost of washing in this family of two hundred persons, was never to exceed forty shillings a year, most of which was expended on the linen of the chapel. Holinshed complains of the exchange of *treene* (wooden) platters for pewter, and of wooden spoons for silver and tin ones. 'So common,' says he, 'were treene vessels in old time, that you should hardly find four pieces of pewter, one

of which was peradventure a salt, in a good farmer's house. But now, our pewterers are grown so cunning, that they can in manner imitate any form or fashion of cup, dish, salt, or goblet, though it were never so curious and very artificially forged.'

The hours of the principal meals have varied in different ages, according to taste and climate. Those of the Greeks and Romans were rather earlier than those of the Hebrews. The former supped at three after noon in winter, and at four in summer ; the general rule was to defer it till the great heat of the day was past. The variation of the hours illustrates the caprice of fashion ; formerly the more fashionable used to show their superiority by taking their meals earlier than others. They bathed an hour before supper, and took exercise before bathing ; the boys whipping tops, young men driving hoops and balls, and old men walking or riding. Similar notions of fashion prevailed in England. 'With us,' says an old black-letter historian, 'the nobility and gentry go ordinarily to dinner at eleven, before noon, and sup at five ; merchants do dine at noon, and sup at six ; husbandmen dine at high noon, and sup at six or seven ;' so that, according to our ideas, the husbandmen were the most fashionable of all.

The next important art which we shall mention, is that of making houses. This, one would have thought, would be the first to improve ; but men, in all ages, have shown a contentment with their accommodations of this kind, which is strongly contrasted with their impatience in other things. It is not every nation, that has felt the need of improving in this respect upon the provisions of nature. Some tribes, mentioned in Scripture, lived in caves ; but as dwellings of this kind were not to be found every where, a cheap and airy dwelling was constructed, by tying together the branches of trees into tabernacles or arbors. In very cold climates, the snow affords materials for a comfortable dwelling. The Esquimaux still make use of them ; as the heat does not escape through the snow, the air is warm within, while the cold without prevents the light material from dissolving. Tents also, covered with cloth or skins, have been largely used instead of houses, in civil as well as military life.

The Jews, Greeks and Romans seem to have been more ambitious to make their temples and public buildings splendid ; acting upon that curious principle, which has so often made

the many labor for the few; rather thankful for the opportunity, than provoked with the compulsion. The earliest kind of oriental mansion, of which we know any thing, is the same which is still in use in those countries. It consisted of buildings surrounding an open court, with roofs nearly level, sloping about an inch in ten feet, and covered with a composition of pounded stone, coal ashes, chalk and gypsum, which effectually excluded the rain. There was a breast-work all round, to prevent accidents; the same which was removed to let down the paralytic to our Saviour, as he stood in the court below. The family passed much time upon the roof in good weather, and often had a stair-case on the outside, by which they could go up or down, without passing through the house. They often slept upon the house-top also, but not without a canopy, to protect them from the dew.

The door was in the side toward the street, and opened into a room, which had another door opening into the court-yard. From this apartment, stair-cases led to the roof and chambers. The court-yard was surrounded with galleries and piazzas. The apartments of the females were in the most retired part of the house, where their windows looked into a garden. Homer speaks of women in his day, as generally confined in the upper story. The stories of the houses are not a modern invention. Diodorus says, that houses in Babylon were sometimes five or six stories high.

The general form of houses among the Greeks and Romans did not differ very widely from this, excepting that they often had two courts, and that the stables were on one side of the principal entrance, near the door. It would seem from an expression of Tacitus, that every one put up his house wherever he thought proper and could find room. Private houses of the common sort were generally built of wood, and as we are told, that they were often dangerous from their height,—three stories,—we must infer that they were rather mean constructions.

Wood was a cheap material in those days as well as ours; but they did not understand the art of using it to advantage; they were much more familiar with the means of employing marble and stone for the purposes of building. The art of sawing marble is very ancient; but it is tolerably clear that it was done without that instrument to which we give the name of saw. Pliny describes different kinds of sand which were

used in this operation, and expressly says, that the sand produced the effect. It is not quite clear who is to have the praise of having invented this useful instrument; Pliny says Daedalus, others say Talus and Perdix. We regard as apocryphal the story, that the inventor employed the back-bone of a fish in the first stages of his invention. With such an instrument he might have kept on sawing to the present day without dividing a stick of wood in sunder. We should rather suppose, that by '*spina piscis*,' something more was meant than meets the ear, as the prohibition of Pythagoras, which prevented his disciples from using beans, referred not, as one might suppose, to an indigestible food, but to the beans which were used for voting at elections. We know of no fish but the saw-fish which is provided with tools of this description.

The old practice in making boards was to split up the logs with wedges; and inconvenient as the practice was, it was no easy matter to persuade the world that the thing could be done in any better way. Saw-mills were first used in Europe in the 15th century; but so lately as 1555, an English ambassador, having seen a saw-mill in France, thought it a novelty which deserved a particular description. It is amusing to see how the aversion to labor-saving machinery has always agitated England. The first saw-mill was established by a Dutchman, in 1663; but the public outcry against the new-fangled machine was so violent, that the proprietor was forced to decamp with more expedition than ever did Dutchman before. The evil was thus kept out of England for several years, or rather generations; but in 1768, an unlucky timber-merchant, hoping that after so long a time the public would be less watchful of its own interests, made a rash attempt to construct another mill. The guardians of the public welfare, however, were on the alert, and a conscientious mob at once collected and pulled the mill to pieces. Such patriotic spirit could not always last, and now, though we have nowhere seen the fact distinctly stated, there is reason to believe that saw-mills are used in England.

The art of civil architecture has advanced in England under such encouragement, with all the rapidity which might be expected. In the time of Alfred, houses were rather indifferent things. We are told by a Saxon historian, that Alfred wished to construct a machine for distinguishing the hours of the day and night, because, says the oracle of Sir Roger de

Coverley and Nicol Jarvie, 'there was at that time no special way of distinguishing them.' He marked a candle into several divisions, each to represent an hour by the time consumed in burning; but so much wind was perpetually coming in through the *chinks* of the palace, that nothing could be determined by this kind of measure. If the aforesaid chinks in the palace had not been stopped, or the public eye blinded, it is doubtful whether royal government would have lasted till the present day. Modern sovereigns have been more disposed to kill time than to measure it; and it is on the whole, the most harmless kind of murder in which great men can indulge their ambition.

In the time of Elizabeth, the general style of building was not very superior to the one just mentioned. 'Building,' says Harrison, 'consisteth of timber cast over with clay to keep out the wind.' One would suppose that the window, if, as old writers say, it was a *wind-door* for the purpose of admitting that element, would have been a very useless addition to the expense of such constructions. The ancients, as Herculaneum sufficiently proves, understood the art of making glass; but they seldom, if ever, used it for their windows.* Down to the twelfth century oiled paper or linen were used instead of it, and, perhaps, admitted as much light as one of our ground-glass windows. The complaint that effeminacy gains ground, is not limited to any age. Old Holinshed in his chronicle bewails the changes that are taking place in building. He says, 'in times past, men were contented to dwell in houses of sallow, willow, &c. so that the use of the oak was in a measure dedicated wholly unto churches, religious houses, princes' palaces, and navigation; but now sallow, &c. are rejected, and nothing but oak any where regarded; and yet see the change: when our houses were builded of willow, then had we oaken men; but now that our houses are come to be made of oak, our men are not only become willow, but a great many altogether of straw; which is a sore alteration.'

We come next to the art of warming houses, an art of some importance in a climate like ours, where it is required two thirds of every year. Not a vestige of a chimney is found in

* Bonuci, in his History of Pompeii, published at Naples in 1828, describes the bathing-room in the house of Diomedes as having a window, provided with *four panes of glass, similar to ours.* See the Vestal, a Tale of Pompeii, p. 186; a work that does great credit to the talent and research of the young author.

Herculaneum, nor is there any reason to believe that they were known in ancient times. The name was given to the hole in the roof through which the smoke escaped after the manner alluded to by Horace, when he compared care to smoke passing round the ceiling. The ancients made use of the smoke to season the wood which they used for particular purposes ; such as making ploughs, wagons, and rudders. Still it was a serious inconvenience to them, and they tried various means to rid themselves of an evil, which caused them to shed many tears. They peeled the bark from wood ; immersed it in water, and let it dry ; hardened it over the fire ; soaked it in the lees of oil ; but all to no purpose. Athenæus says, that one of the qualifications of a good cook is to know in which direction the smoke will move, for it often spoils many dishes. Columella gave directions for making the kitchen roof so high as not to be set on fire. If the proverb, ‘the smoke follows the fairest,’ be ancient, as Sir Thomas Brown declares, the incense paid to beauty must have been infinitely more abundant in that day, though possibly less acceptable, than in ours.

The houses in oriental nations were not furnished either with fire-places or stoves. A brazier with fire in it was carried wherever fire was wanted, and the smoke escaped in its own way, no express provision being made for its retreat.

It appears from Seneca, that the Romans were partially acquainted with an invention, which has been thought quite new. Their common practice seems to have been to keep a fire in the great hall in a metallic vessel. The *images* were stationed in this apartment, and hence derived the name of ‘smoky’ images. But, beside this, as this writer informs us, they conducted warm air from a furnace to any part of the building. This statement is confirmed by a discovery made at Herculaneum. Under the lower apartments of a ruined villa, were found chambers about as high as a common table excavated like our cellars. These chambers were made very close to prevent the escape of the heat ; they were roofed with broad tiles and supported by pillars, which, as well as the tiles, were strongly cemented, that the heat might not separate them. Here the fire was made, and in the roofs of these chambers were square pipes of clay hanging half way down, the mouths opening into the apartments above. Similar pipes were carried into the second story of the house. The mouths of these pipes were ornamented with a lion’s head of burnt clay, and

so formed that they could be regulated at pleasure. The vapor or steam-bath was situated directly over one of these chambers. Truly, there is nothing new under the sun.

Whatever may be meant by the '*lapis obsidianus*' of Pliny, there is no proof that coal was used by the ancients as fuel; in fact, had they known some kinds of our coal, they would not have thought of employing them except as a material for fire-proof buildings. In England, pieces of coal have been found under the Roman military roads, which shows that the article was known, but it was not used to any considerable extent till the forests had begun to fail. We learn from Stow, that in the time of Edward I., the nobility and gentry, who resorted to London, made a remonstrance to the king against what they called 'the sore annoyance and danger of contagion growing by reason of the stench of burning sea-cole.' Whereupon the king issued an order, that 'all men should cease burning cole.' Fortunately kings have no power to repeal the law of nature, which provides that when wood becomes more valuable for other purposes it shall cease to be applied to this, and has provided abundant magazines of coal, which are brought to light whenever and wherever they happen to be wanted.

We really shiver as we read the sparing provision made for this kind of comfort in the great household of Northumberland. Only twenty-four fires were allowed, beside that of the kitchen, and to most of these the allowance was but a peck of coals a day. Nearly all these fires ceased at Lady-day, except those of the Earl's family, which continued on half-pay for a short time after. There must have been much cold weather after the 25th of March, unless the seasons have undergone a great and melancholy alteration. But habit may have reconciled them to this privation; and, in truth, the transition was not very great from such fires as could be made with a peck of coals a day, to no fire at all. Where the wind is not tempered to the lamb, the lamb is tempered to the wind, which answers the purpose as well.

The oldest mention made of chimneys, such as are used at present, is in a Venetian inscription, which states that some were thrown down by an earthquake, in 1347. They could not have been introduced in England till long after this time, since Holinshed, who lived in the sixteenth century, mentions them as among the growing luxuries and corruptions of the times. He alludes to them more in sorrow than in anger,

and as if he were aware that the obvious advantages attending them would render vain all attempts to put them down. Still he thinks it his duty to file a solemn protest against them. 'Now we have many chimnies ; and yet our tenderlines complain of rheums, catarrhs, and poses ; then we had none but reredosses, and our heads did never ache. For as the smoke was supposed to be a sufficient hardening for the timber of the house, so it was reputed a far better medicine to keep the good man and his family from the quack or pose, wherewith then very few were acquainted.' He says, that in his younger days, there were not above three or four chimneys in 'the most uplandish towns in the realme,' but that every man made his fire against a 'reredosse,' in the hall where he dined and dressed his meal.

We come now to the bed. In the early ages, skins were generally used both for bed and pillow. In travelling, the wayfarer was content to take a stone for a pillow, and having spread his upper garment on it, to sleep without any further preparation. Carpets were sufficient for this purpose with most of the people in later times, and had the advantage of being easily transported from one place to another. In order to take up his bed and walk, a man had nothing to do but to roll it up and place it under his arms. This seems to have been the only purpose for which carpets were used in ancient times. There are not many regions of the earth, even now, in which they are generally employed as a covering for floors. The old practice in England was to strew the floor with rushes, so that visitors, who could not find any other seat, might, without much inconvenience, deposit themselves upon the floor. But even as regards the interests of neatness, it would have been quite as well to have left it bare, for Erasmus, in describing respectable English houses, gives us to understand, that under the rushes with which the floor was spread, lay a collection of fragments, bones, beer, and a thousand other abominations. He says, that no doubt the frequent plagues in England were owing to this unsavory practice ; and there has been no example of that disorder since the great fire in London, in the time of Charles II., purified the city. This exemption was, probably, ascribed to the operation of quarantine laws, since every nation makes it a point of honor to deny that plague or yellow fever ever originated at home.

But to return to the bed. In the times of the Hebrew

kingdom, the bed resembled a divan, consisting of a low elevation running round three sides of a small room. This was covered with stuffed cushions of the same width, and bolsters were put on the back against the wall. They also had beds resembling our sofas ; but these were luxuries ; a carpet was enough for the greater proportion of the people. The Romans, luxurious as they were, do not appear to have made use of feather-beds much before the time of Pliny. In the early republican times they slept on leaves, afterwards they used hay and straw. The luxury of the Greeks and Romans did not consist in their sleeping accommodations. The dining couch was a much more effeminate affair.

Till the close of the thirteenth century, straw was common in the chambers of palaces. The kings of England used to sleep, father and son in the same chamber. How retired a king's bed-chamber was, appears from a story told by Stow, of an early English king, whose treasury was near his bed. One evening a young man came in and stole some money, thinking that the king was asleep. Having secured that, he returned for more, but the sovereign, who had seen him all the while, said, 'Thou art too greedie, young man, take what thou hast and be content, for if my treasurer come in, he will not leave thee one penny.'

There has been no regular improvement in the art of sleeping. It has varied with the taste of individuals and countries. Every one knows the story of the chieftain of Lochiel, kicking the snow-ball pillow from under the head of his huntsman, and telling him that he had no business to be more delicate than other people. The heath bed has enjoyed much reputation in Scotland. The author of Waverley tells us, that within his remembrance, after large parties, the ladies would sleep a score in a chamber, while the gentlemen asked no better quarters than the barn. Our ancestors in England were not too particular in this respect. Holinshed says, 'Our fathers, and we ourselves, have lain full oft upon straw pallettes covered only with a sheet, under coverlets made of dagswaine or hopharlets, and a good round log under their heads for a bolster. If it were so, that the father or good man of the house had a mattress or flock-bed, and thereto a sack of chaff to rest his head upon, he thought himself to be as well lodged as the lord of the town, so well were they contented. Pillows, said they, were thought meet only for sick women. As for servants,

if they had any sheet above them it was well ; for very seldom had they any under to keep them from the pricking straws.

We must now give some little account of the subject of dress. The practice of weaving wool, cotton, and flax, is of very great antiquity. The Egyptians excelled in it ; and that the Israelites profited by their teaching, appears from the decorations of the tabernacle, which were made in the wilderness under every possible disadvantage. Woollen was less valued than cotton, and cotton less than linen, hair-cloth least of all. Cotton cloth was left white ; the others were colored with a purple dye procured from a certain shell-fish. Scarlet was obtained from an insect found upon the oak. The dark blue or hyacinth, was formed by an extract from the cuttle-fish. Party-colored cloths were most admired, and a coat of many colors was an object of as much ambition, as a shirt of furniture calico among our Indians now. The Hebrews, it is well known, were forbidden to wear a garment made of wool and linen united ; probably, this order was intended to keep them apart from the heathen, by whom such a dress was very generally worn.

In one respect, the ancients differed materially from the moderns. With them a dress descended from father to son, and from generation to generation, without being subject to the ‘proud man’s contumely,’ by reason of its being out of fashion. Those were days in which the tailor did not make the man ; no cravat bound the throat, to remind the exquisite of the destiny to which all may come ; no bonds, save those of justice, ever imprisoned the free limb ; no tight shoe gave anguish to the much-enduring toe. The garments might then be made at once for the life-time ; and if neither moth nor thief reached them, they were a safe property, which did not lose its value. Perhaps some future lexicographer may find here the etymology of the word *investment*, which, albeit unauthorized in this sense by Johnson, is a word, which stirs like the sound of a trumpet, many a heart in our land.

The most ancient garment was the tunic ; which was a sort of gown fitted to the form, having short sleeves and a girdle. This was worn by both sexes. There were two kinds of girdle ; one made of leather and secured by clasps, the other of cloth ; both were employed as purses, having an opening through which money could be inserted. When a person had

no garment but the tunic, he was said to be naked ; a fact which throws light upon some passages of Scripture, and removes, in some slight degree, the reproach which rests upon the exercises of the Spartan girls.

The upper garment was a plain piece of cloth, generally ten or twelve feet long, and half as wide ; which we suppose would now be called a mantle. It was often woven in a single piece without a seam, and was thrown like a shawl over the shoulders ; sometimes drawn over the left shoulder and fastened at two corners by a buckle on the right. It was on this garment that the Hebrews were directed by Moses to wear the blue riband which distinguished them from other nations. The poor used it as the Highlanders did their plaid, for bed-clothes by night ; and for this reason, if the Hebrew creditor had seized this article of dress, he was compelled by law to restore it before night-fall. The chief difference between the male and female dress was, that the latter always wore the veil. Laboring men went to their work without the upper garment, which explains the prophecy, that at the siege of Jerusalem, they will have no time to return for their clothes. When they went to any distance on foot, they gathered the tunic in folds, and secured it with their girdle at the waist, that it might not embarrass their feet ; this was called girding the loins.

The dress of the Greeks and Romans was not very different from this. It was flowing and graceful ; but while we allow that in point of freedom and appearance their drapery was better than ours, we maintain, that in some other respects the advantage is decidedly our own. What is now called linen, for example, an article so important that no man willingly dispenses with it, was wholly unknown to the ancients, and had they known it, its advantages would have been in a measure neutralized, by their practice of putting oil on their limbs and head. There are some respects in which the personal habits of the ancients will not bear investigation. The pocket-handkerchief, which is found in all but the most benighted portions of the modern world, was not among their comforts and blessings ; and what supplied its place is more easily imagined than described. As one other slight indication, Pompey the Great appears to have been ridiculed by a satirist, because, with a remarkable effeminacy, he made use of but one finger in scratching his head.

It is no easy matter to tell when the modern dress was first used. Nothing resembling pantaloons was worn by Hebrew or Greek, nor the earlier Romans. It appears that they were known in Babylon, and were so made as to cover the foot, so that the hint of the stocking was evidently taken from an amputated leg of this garment. Something of the kind was also in use among the Gauls, who were in general by no means curious in such matters, and in the fifth century they were worn in Rome ; but it was thought beneath the majesty of Rome to borrow fashions from a conquered people ; and a law was passed, compelling all who made or wore them to retreat with their new finery from the premises of the city. The modern small-clothes were first worn in the time of Louis XVI. ; the article in Scripture, which bears a similar name, was nothing more than an apron gathered round the waist and falling to the knees. As this article of dress originated in France, it came near ending where it began. Few specimens of it being found in the regiment of Anacharsis Clootz, it was rejected from the revolutionary uniform, not so much by positive edict as gradual decay, and in this situation, like other patriots, they represented themselves as sacrificing their private comfort for the public welfare.

It would be amusing enough to trace the history of English fashions, but we have not room. It seems that they depended very much upon those of their neighbors. After the successes of Edward I., most of the English ladies were provided with foreign dresses, and, as might be expected, we are informed by Stow, that 'the matrons being proud in their French apparelle, did brag.' In Henry IVth's time, says the same authority, 'was excessive pride in dress ; gownes with deepe and broad sleeves, commonly called poke sleeves, which might be called receptacles of the divell, for they did hide what they stole in their sleeves, whereof some hung down to the knees full of cuttes and jagges.' From this it appears that the female fashion of the day is not without reason and example. Edward IV. ordained that no persons under a certain degreee, 'should weare in their array any bolsters of wool or cotton.' But there is no end to the list of extravagant fashions. Queen Elizabeth passed more laws than one to restrain extravagance in dress ; as a comment on her judicious regulations we may mention, that at her death, more than three thousand dresses were found in her wardrobe, being probably

all that she had ever worn in her lifetime, since it is not upon record that she ever gave any thing away.

Anciently there was no covering for the head, except the mitre for the priests and princes. The Eastern nations were fond of displaying the hair ; the Roman ladies made a practice of dying it yellow or red. The modern hat was not worn till the fifteenth century ; before that time they used woollen caps, when the weather required any protection for the head.

The covering for the feet needs to be more particularly mentioned. Sandals were most common among the orientals. As they were mere soles of wood or leather fastened to the foot with strings, they were no protection from the dust ; hence arose the hospitable practice of washing the visiter's feet ; a practice so much insisted upon by public opinion, that if any one passing out of a house beat the dust from his feet, it showed that they had not been washed, and left on the house the reproach of inhospitality, which was the deepest of all dishonor.

The Greeks and Romans added the moccason or buskin to the sandal ; the former was worn by tragic actors. The shoe makes quite a figure in English history. In the time of Richard I., says Stow, ‘ began the detestable use of piked shooes, the toes being tied up to the knee with chains of silver or guilt.’ Edward IV., says the same historian, ordained ‘ that no man weare shooes or boots having toes passing two inches long ; no peakes of boots or shooes to pass that length on pain of cursing by the clergie.’

The art of knitting was unknown to the ancients ; that of netting they understood. This has occasioned some slight perplexity to scholars, who are not supposed to know the difference between the two operations. Knitting is tolerably well known. We have looked into Johnson's folio to ascertain what net-work is ; he defines it as ‘ any thing reticulated or decussated at equal distances, with interstices between the intersections.’ If this does not explain it, we know not what will. Those of our readers, if any there be, who have no stockings, may be comforted by the assurance, that all the great men of antiquity were, so far as this privation goes, equally unhappy.

The stocking-loom was invented by William Lee, an Englishman, in the year 1589. Several romantic stories are told of the first suggestion of this invention ; that, for example, it

owed its existence to a passion for a girl, who paid more attention to her knitting than to him, which induced him to turn his attention in the same direction. The French have claimed the invention, probably, because Lee, finding no favor in England, went over to Paris, and was patronized by Henry IV., but being neglected after the murder of that King, he died in distress at that city.

It is well known that silk, which is now so generally employed in the manufacture of stockings, was introduced into the Roman empire by Justinian. But some are perplexed by the mention made of silk in Scripture, in the history of Alexander the Great, and in the *Georgics* of Virgil. The kind of moth, whose winding-sheet is so much employed by the human race at present, has supplanted various kinds that were known before, such as lived on the oak, pine, and ash ; and another, which was called the silk-worm of the sea, the silk being the delicate cordage with which the mother-of-pearl lashes itself to the rock. The Chinese, or mulberry silk-worm, has taken place of the rest—except in Ceos in the Archipelago. Chateaubriand mentions, that in visiting that island he called on the Bishop, whom he found engaged in spinning ; the prelate, who was a decided utilitarian, sharply reproved the traveller, telling him that he might improve his time better than in searching for bits of old marble.

As soon as stockings were invented, they began to make them of silk. Howell says, ‘that great and expensive prince, Henry VIII. wore ordinarily cloth hose, except when there came from Spain, by great chance, a pair of silk stockings. King Edward, his son, was presented with a pair of long Spanish silk stockings by Thomas Gresham, his merchant, and the present was much taken notice of.’ Stow says, that ‘in the third year of Elizabeth, Mistress Montague having presented the queen with a pair of silk stockings, she was so delighted with them, that she never would weare cloth hose after.’ How valuable such a possession was in that day, appears from a letter of James I., written while he was king of Scotland. It was addressed to the Earl of Mar, telling that nobleman, that the Spanish Ambassador was to be presented at court, and begging the loan of his stockings for the occasion. It contains this touching appeal ; ‘Ye would na sure that your king should appear as a scrub before strangers.’

There are interesting questions connected with this subject ;

why, for example, are the arts of life so humble and mechanical, while the arts of death are so imposing and high. But we have not room to discuss them. We hope that these inventions will continue to multiply, and are content to esteem as a benefactor to mankind, every one who adds to their number. It is true, they are things that pass away; this is because one improvement follows and supplants another; it is like the teeth of childhood; the new push out the old, and are ready to take their places when they fall.

ART. IV.—*Pennsylvanian Biography.*

Memoirs of the Historical Society of Pennsylvania. Part II.
Philadelphia. 1830.

We have always attached great importance to the systematic study, as a part of education, of the personal narrative of the Revolution. No nation the world has ever known can make a more substantial boast, as respects the character of its founders, than we can, and classical antiquity has no more romantic picture than our free infancy presents. Pride in such an ancestry is an elevated and honorable sentiment, which we would fondly cherish, as calculated to fill a void which may be less beneficially supplied. ‘*Ad illa, pro se quisque acriter intendat animum, quæ vita, qui mores fuerint; per quos viros, quibus artibus domi militiæque partum et auctum imperium sit.*’ It is surely not extravagant to say, that the man, who thoroughly imbibes the spirit of romantic devotion which actuated our revolutionary progenitors, will scorn the humbler associations of ephemeral politics, and, in aiming at an imitation of the virtues of our heroic age, will rise to a level suited to such an emulation. Let any one study with attention the biographies of such men as James Otis and Josiah Quincy, and watch the developement of patriotic ardor, which, when once it burst into a flame, defied control, the fearlessness that shrunk from no danger and despised all compromise, the willing immolation of every selfish feeling, and the romantic consecration of every faculty to what seemed to be the engrossing purpose of their being, and he will hardly view with much respect the feats and honors of a modern politician. We have referred to these two instances, on account of their marked peculiarity, and be-